NUS CORPORATION
SUPERFUND DIVISION

INTERNAL CORRESPONDENCE

C-583-1-5-17

TO: NANCY PILIGIAN

DATE: DECEMBER 27, 1984

FROM: THOMAS WOODARD TW for TW

COPIES: FILE

SUBJECT: LETTER REPORT: HOWE RICHARDSON SCALE COMPANY
PRELIMINARY ASSESSMENT
TDD No. F1-8411-04
Job No. VT03-PA
0300.01

Approved
4-16-85
DRSmith

Disclaimer: The documents prepared within, comply with requirements set forth under EPA Superfund legislation, however, they do not necessarily fullfill the requirements of other EPA regulations such as RCRA.

On Monday, December 17, 1984, a perimeter survey was conducted at the Howe Richardson Scale Company (now known as PJD Inc., a subsidiary of Aerojet Investments, La Jolla, California) Site in Rutland, Vermont. The survey was conducted by Tom Woodard, Tom Plant, Hans-Peter Krahn (NUS/FIT), and Harold Garabedian (Chief, Vermont Hazardous Materials Section). The plant is located on an 18 acre parcel of land on the west side of Strongs Avenue, near the center of Rutland (See Figure 1). On the property are some 20 buildings associated with the now inactive plant. The area is restricted by a chain link/barbed wire fence. The plant has a 125 year history ending in 1982. At that time a complete cleanup and closure of the site was performed. The site is currently for sale. During the perimeter survey, six monitoring wells were observed on the southern portion of the property and several drums were standing in one area (see Figure 2). Moon Brook was also observed running through a portion of the property. Although the plant is now closed, a watchman was stationed at the front gate on Strongs Avenue.

Howe-Richardson was a producer of large industrial scales and balances for over 100 years. Wastes generated from the various processes are outlined in Attachment 1, a hazardous waste census compiled by Howe Richardson in 1981. The plant was not certified as a hazardous waste treatment or disposal facility, but was permitted for temporary storage for up to 90 days. As of December 31, 1982, all stored wastes were documented as having been removed from the property through a report filed by the company describing the decontamination used on plant equipment and subsequent waste disposal.

Currently a fair amount of work has been done on the site, initiated by PJD Inc. (formerly Howe Richardson) and performed by contractors DuBois & King, of Randolph, Vermont. Thirteen monitoring wells and one recovery well were installed on site in 1980 (See Figure 2). Wells 1 through 4, 7 and 8, were placed at locations believed to be downgradient from the alleged solvent disposal area. These wells have been sampled in 1980, 1981, 1983, and 1984. Organic contaminants, primarily chlorinated solvents such as: carbon tetrachloride, 1,1-dichloroethane, 1,1-dichloroethene, 1,1,1-trichloroethane, trichloroethene, and methylene chloride have been detected consistently. During a 1980 landfill investigation by DuBois & King heavy metals such as lead, chromium, and zinc

were found in groundwater exceeding proposed EPA Hazardous Waste Level Regulations (2). Wells 5, 9, 10 through 13 and R (a recovery well) were installed in response to an underground fuel oil storage tank leak (1979). Thirty-five cubic yards of oil soaked soil were removed in 1982. A 1981 analysis of groundwater from these wells indicated that no fuel oil contamination existed (2). Well number 6 was reportedly destroyed accidentally. The elevated land north of Moon Brook appears to be a former landfill area for disposal of foundry ash/sand wastes.

Groundwater is inferred to flow towards Moon Brook. Analytical results indicate that no contamination is leaving the site via Moon Brook (2). This has been attributed to the high clay and silt content in a layer up to 20 feet thick under 12 feet of cinderslag surface material (2). The plant is in an area underlain by thick deposits of coarse-grained stratified glacial drift which constitues a significant source of groundwater (3). The town of Rutland is now involved in a study to develop some of this stratified drift for public water supply (4). Moon Brook flows westerly into Otter Creek which in turn flows northerly through Vermont and into Lake Champlain.

The town of Rutland is served by municipal water; the supply comes from a reservoir located northeast of Rutland in Mendon. NUS/FIT indentified only two gravel wells within three miles of the site, a private well approximately one mile south of Howe Richardson and the Town of West Rutland's municipal well, 2.75 miles to the west. Moon Brook, a potential surface water receptor, flows through a residential area before reaching Otter Creek.

The information currently available on the site is quite substantial, no definite trend (increasing or decreasing with time) is evident regarding the concentration of contaminants which have been monitored over the past four years. However, the presence (regardless of concentration changes) of the contaminants has been consistent. Due to this situation, it is recommended that a two-phase site inspection be conducted. The initial phase should involve a thorough review of all existing information and a completion of the site inspection forms based on this data. The final phase should include a detailed hydrogeological investigation, as DuBois & King have expressed uncertainty over their placements of wells to best ascertain groundwater flow, direction and contamination (5). A round of sampling should be conducted on: soil, existing monitoring wells, Moon Brook, and the two gravel wells mentioned previously. Efforts should be made to identify any additional private wells in the site vicinity.

TW/tan

Reviewed and approved by:

R. DiNitto, RPM

Date: 1-9-86

REFERENCES

1. U.S.G.S Rutland, Vermont, 7.5 minute Topographic Map.

2. Analytical Results, DuBois & King 1980-1984 (State and Company files).

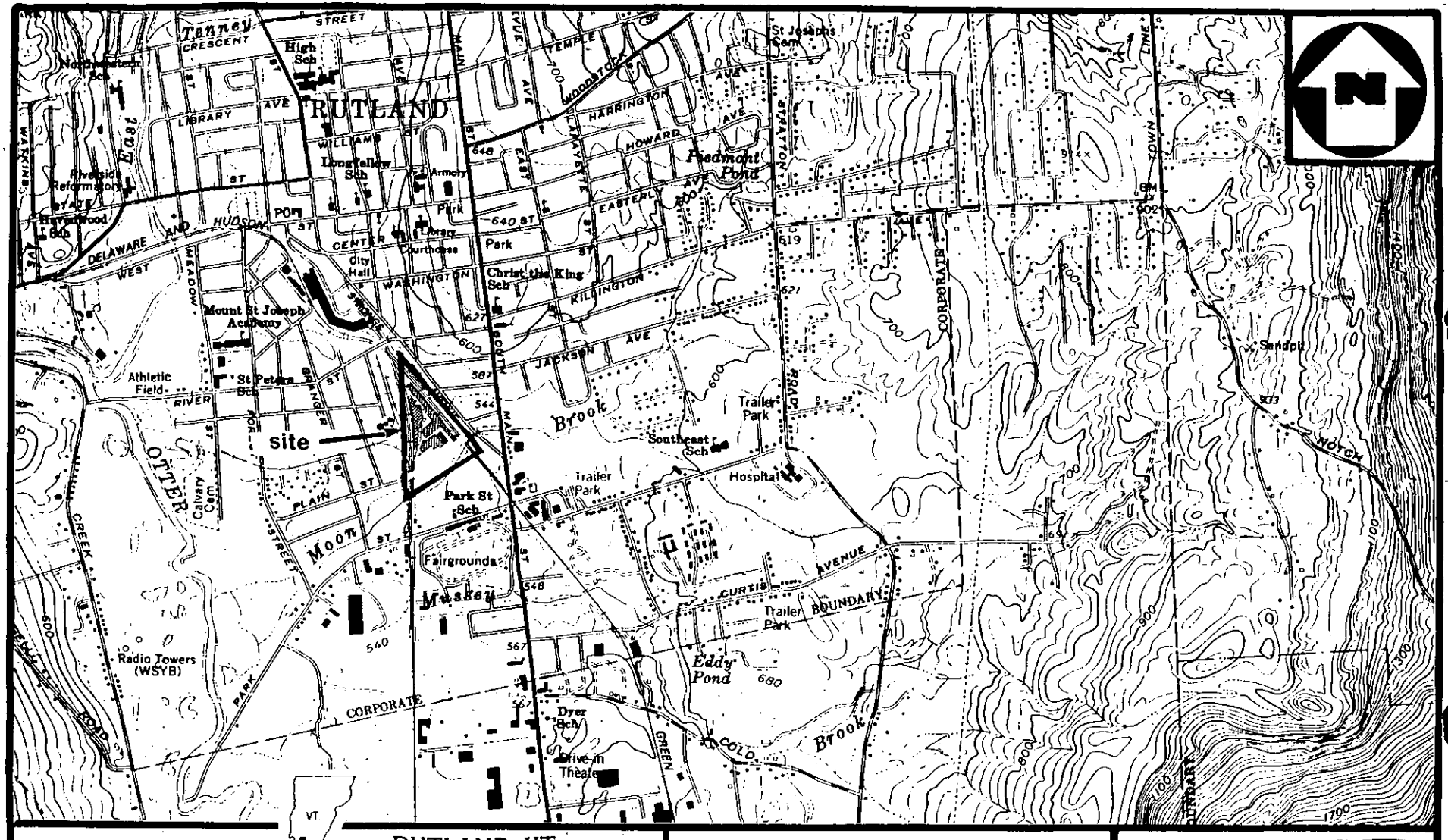
3. Groundwater Favorability Map, Otter Creek Basin, Vermont. Vermont Department of Water Resources, 1967.

4. Telecon, December 26, 1984, between Harold Sargent (Vermont Department of Environmental Health) and Thomas Woodard (NUS/FIT).

5. Company files of PJD Inc. (formerly Howe Richardson).

OTHER REFERENCES NOT CITED

- EPA Form 8900-1 Notification of Potential Hazardous Waste Site 6/10/81.
- Files from State of Vermont Hazardous Materials Section.
- Interview with Harold Garabedian, Chief - Vermont Hazardous Materials Section.
- Project Logbook, NUS/FIT.
- Telecon, November 8, 1984, between Town Clerk, Rutland, Vermont, and Thomas Woodard (NUS/FIT).



RUTLAND, VT.

SCALE 1:24000 QUADRANGLE LOCATION N4330—W7252.5/7.5

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

1 .5 0 1 KILOMETER

CONTOUR INTERVAL 20 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

HOWE RICHARDSON SCALE COMPANY

RUTLAND, VERMONT
DECEMBER 1984

Reference 1

NUS CORPORATION
A Halliburton Company

FIGURE 1

(b) (9)

[redacted]

HOWE RICHARDSON SCALE COMPANY
RUTLAND, VERMONT

1/17/81

HAZARDOUS WASTE CENSUS

Hazardous Waste	Process By Which Generated	Volume Month	Volume Year	Current Disposal Method	Planned Disposal Method
1,1,1-Trichloroethane Sludge	Immersion Degreasing	5 Gals.	55 Gals.	Off-site treatment by Recycling Industries, Inc. Div. of SCA Chemical Services 385 Quincy Ave. Braintree, Mass. 02184 EPA I.D. No. MAD053452637	No change from current method.
Paint Stripper - 80% Methylene Chloride, 15% Formic Acid	Paint Removal	9 Gals.	110 Gals.	"	Plan to discontinue Paint Stripping Operation in 1981.
Chromic Acid Solution, 3-10% by volume	Post-Plate Chromate Dip	14 Gals.	165 Gals.	"	Plan to discontinue Electro-Plating in 1981.
Inhibited Hydrochloric Acid Solution, 30% by volume	Pre-Plate Acid Dip	18 Gals.	220 Gals.	"	"
Sulfuric Acid Solution, 1% by volume	Pre-Plate Acid Dip	5 Gals.	55 Gals.	"	"
Zinc Cyanide Plating Solution & Sludge	Electro-Plating	23 Gals.	275 Gals.	"	"
Nickle Plating Sludge, pH 4.0	Nickle Plating	5 Gals.	55 Gals.	"	"
Coolants, Cutting Oils	Machining Operations	55 Gals.	660 Gals.	"	Volume Reduction Through Closed-Loop Filtration. Balance to Recycling Industries.
Paint Thinners	Cleaning of Paint Spray Apparatus	55 Gals.	660 Gals.	"	1. Off-site solvent reclamation. 2. Off-site incineration.
Paint Filters & Paint Residue	Spray Painting	50 lb.	600 lb.	"	Convert to a Vinyl Paint Formulation which is Non-Toxic and Non-Ignitable.
Electro-Plating Waste Water	Electro-Plating, Chromating	10^5 Gals.	1.25×10^6 Gals.	Discharge to Rutland POTW under Temp. Pollution Permit #4-0224	Plan to discontinue Electro-Plating in 1981.
Lubricating & Hydraulic Oils	From Plant Machy. and Vehicles	165 Gals.	2000 Gals.	Sold to Portland-Bangor Waste Oil Co., Wells, Maine	No change from current method.
Alkaline Cleaners	Metals Cleaning prior to Paint, Plate and Heat Treat.	500 Gals.	6000 Gals.	Neutralize pH, Discharge to Rutland POTW	Neutralize pH, remove oil and sludge for off-site treatment, discharge. (Discontinuance of Electro-Plating and Heat Treating will reduce yearly volume to 3000 gals.)
Iron Phosphate Solution	Pre-Paint Phosphating of Metals	250 Gals.	3000 Gals.	Neutralize pH, remove sludge for off-site treatment, discharge to Rutland POTW	Neutralize pH, remove oil and sludge for off-site treatment, discharge.

Attachment I

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 1 - SITE INFORMATION AND ASSESSMENT

I. IDENTIFICATION
01 STATE: VT | 02 SITE NUMBER: VTD 002 078 509

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER				
Howe Richardson Scale Company	26 Strongs Avenue				
03 CITY	04 STATE	05 ZIP CODE	06 COUNTY	07 COUNTY CODE	08 CONG DIST
Rutland	VT	05701	Rutland	021	VT-01
09 COORDINATES LATITUDE: 43° 35' 51.6"	LONGITUDE: 72° 58' 58.8"				

10 DIRECTIONS TO SITE (Starting from nearest public road)

The plant is located on Strongs Avenue which is off South Main Street in Rutland. It is marked by a sign, bearing the plant name.

III. RESPONSIBLE PARTIES

01 OWNER (If known)	02 STREET (Business, mailing, residential)		
PJD, Inc. (subsidiary of Aerojet General)	1030 N. Torry Pines Road		
03 CITY	04 STATE	05 ZIP CODE	06 TELEPHONE NUMBER
LaJolla	CA	92037	619 455-8500
07 OPERATOR (If known and different from owner)	08 STREET (Business, mailing, residential)		
Former: Howe Richardson Scale Co.	26 Strongs Avenue		
09 CITY	10 STATE	11 ZIP CODE	12 TELEPHONE NUMBER
Rutland	VT	05701	802 775-5541

13 TYPE OF OWNERSHIP (Check one)
X A. PRIVATE ☐ B. FEDERAL: _____ (Agency name) ☐ C. STATE ☐ D. COUNTY ☐ E. MUNICIPAL
☐ F. OTHER: _____ (Specify) ☐ G. UNKNOWN

14 OWNER/OPERATOR NOTIFICATION ON FILE (Check all that apply)
X A. RCRA 3001 DATE RECEIVED: 11/19/80 (MONTH/DAY/YEAR) X B. UNCONTROLLED WASTE SITE (CERCLA 103 c) DATE RECEIVED: 6/10/81 (MONTH/DAY/YEAR) ☐ C. NONE

IV. CHARACTERIZATION OF POTENTIAL HAZARD

01 ON SITE INSPECTION
X YES ☐ NO DATE: / /80 (MONTH/DAY/YEAR)
BY (Check all that apply)
☐ A. EPA ☐ B. EPA CONTRACTOR ☐ C. STATE ☐ D. OTHER CONTRACTOR
☐ E. LOCAL HEALTH OFFICIAL ☐ F. OTHER: _____ (Specify)
CONTRACTOR NAME(S): DuBois & King

02 SITE STATUS (Check one)
☐ A. ACTIVE X B. INACTIVE ☐ C. UNKNOWN

03 YEARS OF OPERATION
1857 (BEGINNING YEAR) | 1982 (ENDING YEAR) ☐ UNKNOWN

04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED

Chlorinated solvents, paint wastes, fuel oil, metals from plating line, alkaline cleaners, iron foundry wastes and acids.

05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND OR POPULATION

Groundwater contamination. Surface water contamination. The groundwater is shown to be contaminated, a brook flows through the site and is a potential receptor.

V. PRIORITY ASSESSMENT

01 PRIORITY FOR INSPECTION (Check one. If high or medium is checked, complete Part 2 - Waste Information and Part 3 - Description of Hazardous Conditions and Incidents)
X A. HIGH (Inspection required promptly) ☐ B. MEDIUM (Inspection required) ☐ C. LOW (Inspection at discretion) ☐ D. NONE (No further action needed)

ok 4-16-85 DRSmith

VI. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)	03 TELEPHONE NUMBER
Harold Garabedian	State of VT Hazardous Materials Sec.	802 828-3395

04 PERSON RESPONSIBLE FOR ASSESSMENT	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NUMBER	08 DATE
Thomas Woodard	NUS	FIT	617 275-2970	12/17/84

EPA FORM 2070-12 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
VT	VTD 002 078 509

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

- X A. SOLID
- B. POWDER, FINES
- X C. SLUDGE
- E. SLURRY
- X F. LIQUID
- G. GAS
- D. OTHER (Specify)

02 WASTE QUANTITY AT SITE (Measures of waste quantities must be independent)

TONS unknown

CUBIC YARDS

NO. OF DRUMS

03 WASTE CHARACTERISTICS (Check all that apply)

- X A. TOXIC
- X B. CORROSIVE
- C. RADIOACTIVE
- X D. PERSISTENT
- X E. SOLUBLE
- F. INFECTIOUS
- G. FLAMMABLE
- H. IGNITABLE
- I. HIGHLY VOLATILE
- J. EXPLOSIVE
- K. REACTIVE
- L. INCOMPATIBLE
- M. NOT APPLICABLE

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE	385 gal/yr		plating sludge, grinder sludge
OLW	OILY WASTE	2500+ gal/yr		plant machinery & vehicles, fuel oil
SOL	SOLVENTS	700 gal/yr		degreasing paint waste & thinners
PSD	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS			
IOC	INORGANIC CHEMICALS	300+ gal/yr		phosphating pre-paint treatment
ACD	ACIDS	500 gal/yr		hydrochloric, sulfuric, chromic
BAS	BASES	6000 gal/yr		alkaline cleaners
MES	HEAVY METALS	unknown		Cr, Pb, Ni, Zn from plating

IV. HAZARDOUS SUBSTANCES (See appendix for most frequently cited CAS numbers)

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
SOL	methylene chloride		onsite/offsite	0.009	ppm GW*
SOL	1,1-dichloroethene		onsite/offsite	1.95	ppm GW
SOL	1,1-dichloroethane		onsite/offsite	0.83	ppm GW
SOL	1,1,1-trichloroethane	127-18-24	onsite/offsite	0.13	ppm GW
SOL	chloroform	67-66-3	onsite/offsite	0.12	ppm GW
SOL	1,2-dichloroethene		onsite/offsite	0.012	ppm GW
SOL	chlorobenzene	108-90-7	onsite/offsite	0.002	ppm GW
IOC	iron phosphate		offsite treatment		
SOL	bromodichloromethane			0.07	ppm GW
SOL	carbon tetrachloride	56-23-5		0.115	ppm GW
SOL	acetone			0.125	ppm GW
MES	chromic acid	7738-94-5	onsite/offsite	7.64 (Cr)	mg/1 GW
MES	lead		onsite/offsite	1.50 (Pb)	mg/1 GW
MES	zinc cyanide	557-21-1	onsite/offsite	3.75 (Zn)	mg/1 GW
MES	nickel	7440-02-0	onsite/offsite		
OLW	#6 fuel oil		underground storage tank		see footnote[1]

other solvents have been detected in low concentrations

V. FEEDSTOCKS (See appendix for CAS numbers)

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS			FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

1. PJD Inc. - Correspondence with State of VT and EPA
2. State of VT Hazardous Materials section files
3. DuBois & KIng - Water Quality Monitoring Reports 1980-1984
4. Howe Richardson files
5. CERCLA 6/10/81

*GW = groundwater

1 = 35 cubic yards of oil soaked soil was removed in May 1982.
No oil detected in monitoring well water in May 1981

EPA FORM 2070-2 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
VT	VTD 002 078 509

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 [X] A. GROUNDWATER CONTAMINATION
03 POPULATION POTENTIALLY AFFECTED: unknown
02 [X] OBSERVED (DATE: 1980-1984) [ ] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

Monitoring wells are in place on the site, chemical analysis of the sampling shows some groundwater contamination. The town is on municipal water. The number of wells in the area is unknown.

01 [X] B. SURFACE WATER CONTAMINATION
03 POPULATION POTENTIALLY AFFECTED: unknown
02 [ ] OBSERVED (DATE: _____) [X] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

Moon Brook flows through the site and may become contaminated.

01 [ ] C. CONTAMINATION OF AIR
03 POPULATION POTENTIALLY AFFECTED: _____
02 [ ] OBSERVED (DATE: _____) [ ] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

01 [ ] D. FIRE/EXPLOSIVE CONDITIONS
03 POPULATION POTENTIALLY AFFECTED: _____
02 [ ] OBSERVED (DATE: _____) [ ] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

01 [ ] E. DIRECT CONTACT
03 POPULATION POTENTIALLY AFFECTED: _____
02 [ ] OBSERVED (DATE: _____) [ ] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

01 [X] F. CONTAMINATION OF SOIL
03 AREA POTENTIALLY AFFECTED: unknown (Acres)
02 [X] OBSERVED (DATE: 1979) [ ] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

35 cubic yards of soil saturated with #6 fuel oil was removed from the site in May 1982. The pH of the soil was found in 1979 to be 5.9, low due to dumping of corrosive foundry ash/sands. This apparently caused the oil storage tanks deterioration.

01 [X] G. DRINKING WATER CONTAMINATION
03 POPULATION POTENTIALLY AFFECTED: unknown
02 [ ] OBSERVED (DATE: _____) [X] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

According to reports, contamination has not left the site via Moon Brook due to the high clay, silt content in the ground which restricts movement in this case. Wells in the area could be affected, the numbers are unknown.

01 [ ] H. WORKER EXPOSURE/INJURY
03 WORKERS POTENTIALLY AFFECTED: _____
02 [ ] OBSERVED (DATE: _____) [ ] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

01 [ ] I. POPULATION EXPOSURE/INJURY
03 POPULATION POTENTIALLY AFFECTED: _____
02 [ ] OBSERVED (DATE: _____) [ ] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

NATIONAL PRIORITIES LIST
CHECKLIST OF DATA REQUIREMENTS

Site Name: Howe Richardson Scale Company, Rutland Vermont
TDD No.: F1-8411-04
NUS Job No.: VT03-PA

Notes:

DATA ELEMENT/PATHWAY	Available	Not Appropriate
Ground and Surface Water and Air		
1. Waste physical state	yes	
2. Persistence	yes	
3. Toxicity	yes	
4. Quantity	yes	
Ground Water		
1. Monitoring data (if yes, skip 1a, 1b, 1c)	yes	
1a. Depth of aquifer		
1b. Net precipitation		
1c. Permeability		
2. Ground water use	yes	
3. Distance to nearest down-gradient well	no	
4. Population served by wells within 3 miles	no	
Surface Water		
1. Monitoring data (if yes, skip 1a, 1b, 1c, 1d)	no	
1a. Slope of terrain	yes	
1b. Rainfall itensity	yes	
1c. Distance to surface water	yes	
1d. Flood potential	yes	
2. Surface water use	no	
3. Critical habitats	no	
4. Population served	no	
Air		N/A
1. Monitoring data		
2. Waste reactivity		
3. Incompatibility		
4. Toxicity		
5. Distance to nearest population		
6. Population within 1 mile		
7. Critical environments		
8. Land use		

NATIONAL PRIORITIES LIST
CHECKLIST OF DATA REQUIREMENTS
Page 2

DATA ELEMENT/PATHWAY	Available	Not Appropriate
Fire and Explosion		
1. Ignition source	no	
2. Containment	no	
3. Ignitability	no	
4. Reactivity	no	
5. Incompatibility	no	
6. Distance to population	yes	
7. Distance to off-site building	yes	
8. Distance to sensitive ecosystems	no	
9. Land use	yes	
10. Population within 2 miles	no	
11. Buildings within 2 miles	no	
Direct Contact		
1. Evidence (if yes, skip 1a, 1b)	no	
1a. Accessibility	yes	
1b. Containment	yes	
2. Toxicity	no	
3. Population within 1 mile	no	
4. Critical habitat	no	
5. Land use	no	